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10/772,430	02/06/2004	Yohei Makuta	0505-1266P	6116
2292 7590 01/05/2010 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
EGLOFF, PETER RICHARD				
ART UNIT		PAPER NUMBER		
3715				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/772,430

Applicant(s)

MAKUTA ET AL.

Examiner

PETER R. EGLOFF

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5, 6, 11, 12, 18 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-4, 13, 14, 16, 17 and 19 is/are rejected.
- 7) ☒ Claim(s) 7-10 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. In response to the amendment filed 06 October, 2009, claims 1-20 are pending.

Claim Objections

2. Claims 7-10 are objected to because of the following informalities: the body of independent claim 7 consists solely of wherein phrases, rendering the form of the claim improper. Claims 8-10 inherit the deficiencies of parent claim 7, and are thus rejected for the same reason. See MPEP § 608.01m. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US Patent No. 6,083,106) in view of Yamasaki et al. (US Patent No. 5,547,382) and McClellion (US Patent No. 7,156,026 B2).

Regarding claims 1, 3 and 4, McDowell discloses a riding simulation system for providing an operator with a pseudo-experience of running conditions of a vehicle by displaying scenery seen to the rider as a video image on a display based on the operating condition of operation by the operator (see abstract), the riding simulation system comprising: a steering handle mechanism (28) gripped and operated by the operator (Fig. 1; column 5, lines 50-67), a step mechanism comprising two pedals which are operated by the feet of the operator (see Fig's. 1 and 2; column 6, lines 28-39), a connection shaft for connecting said steering handle mechanism and said step mechanism to each other, said connection shaft provided to be extendable and contractible along the axial direction thereof (column 6, lines 7-22), and a frame body (see Fig. 2) (as per claim 1). McDowell does not explicitly disclose the riding simulation system is used to simulate riding a motorcycle, and that the foot controls are a gear change and a brake pedal, as in a real motorcycle, a frame body having a cylindrical portion and at least two main frames that are directly attached to the cylindrical portion, the at least two main frames having curved shapes, and a handle shaft portion of said steering handle mechanism is inserted into an upper portion of the cylindrical portion and the connection shaft is disposed midway between and is supported by lower portions of the at least two main frames (as per claim 1), a vibrator for a dummy engine vibration (as per claim 3), and means for giving a reaction force in a direction opposite to a turning direction of said steering handle mechanism (as per claim 4). However, Yamasaki discloses a motorcycle riding simulator

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that includes a step mechanism comprising a brake pedal and a gear change pedal which are operated by the feet of the rider (see Fig. 33; column 6, lines 1-29; column 16, lines 45-61) (as per claim 1), a vibrator for a dummy engine vibration (column 16, lines 22-27) (as per claim 3), and means for giving a reaction force (see Fig. 28; column 14, lines 55-65) (as per claim 4). It would have been obvious to one skilled in the art at the time of the invention to modify the teachings of McDowell by using McDowell's system to simulate riding a motorcycle by adding gear change and brake pedals, a vibrator, and means for giving a reaction force, as taught by Yamasaki, with the motivation of providing a realistic riding experience to the rider. The combination of McDowell and Yamasaki does not explicitly disclose a frame body having a cylindrical portion and at least two main frames having upper portions that are directly attached to the cylindrical portion and lower portions that are connected via a connection frame, the at least two main frames having curved shapes, and the steering handle mechanism is mounted at upper is mounted at upper portions of the cylindrical portion and the connection shaft is disposed midway along the connection frame which extends orthogonally with respect to the lower portions of the at least two main frames (as per claim 1). However McClellion discloses driving simulation device that includes a frame body comprising a cylindrical portion (30) and two main frames (16a and 16b) directly attached to the cylindrical portion, the two main frames having curved shapes, and the steering handle mechanism (32) is mounted at upper portions of the cylindrical portion. It would have been obvious to one skilled in the art at the time of the invention to modify the teachings of the combination of McDowell and Yamasaki by adding the frame body taught by McClellion in addition to the connection shaft taught by McDowell, to connect the upper portions of McClellion's

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frames to McDowell's cylindrical portion and the lower portions via the base 22, and to provide the connection shaft orthogonally with respect to the lower portions, as taught by McDowell, with the motivation of providing more structural support to McDowell's system.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US Patent No. 6,083,106) in view of Yamasaki et al. (US Patent No. 5,547,382) and McClellion (US Patent No. 7,156,026 B2), and further in view of Simpkins et al. (US Patent No. 5,431,569).

Regarding claim 2, the above combination does not explicitly disclose the connection shaft is provided to be inclinable relative to said step mechanism, however Simpkins discloses a simulator chair capable of simulating a motorcycle (column 7, lines 8-16) that includes the feature of allowing the foot controls (144) to be inclinable relative to the connection shaft (33) (see column 5, lines 23-39 and Fig. 1). It would have been obvious to one skilled in the art at the time of the invention to modify the teachings of the above combination by adding the feature of allowing the foot controls to pivot relative to the connection shaft, with the motivation of accommodating users of different sizes.

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al. (US Patent No. 5,547,382) in view of McClellion (US Patent No. 7,156,026 B2), McDowell (US Patent No. 6,083,106) and Tosaki et al. (US Patent No. 5,989,123).

Regarding claim 13, Yamasaki discloses a riding simulation system for providing an operator with a pseudo-experience of running conditions of a motorcycle by displaying scenery seen to the rider as a video image on a display based on an operating condition of a dummy operating mechanism operated by the operator (see Fig. 1; column 6, lines 30-52), the riding simulation system comprising a handle mechanism for operating a steering handle with a handle shaft portion as a turning fulcrum by the operator (see Fig. 36) and a frame portion for supporting the steering handle shaft portion (see Fig's. 25-27; column 13, line 66 - column 14, line 9). Yamasaki further discloses a handle moving motor 121a that provides a reaction force direction opposite turning in order to simulate the actual feel of steering (see Fig. 28; column 14, lines 55-65). Yamasaki does not explicitly disclose a step mechanism which is operated by the feet of the operator, and a connection shaft for connection said handle mechanism and said step mechanism. However, as noted in the rejection of claim 1, above, McDowell discloses such a mechanism, and it would have been obvious to one skilled in the art at the time of the invention to modify Yamasaki by adding such a mechanism, with the motivation being the same as that set forth in the rejection of claim 1, above. Yamasaki also does not explicitly disclose a frame portion including a cylindrical portion into which the handle shaft portion is inserted, and first to third main frames directly connected at equal angular interval intervals to upper left, right and front sides of the cylindrical portion, the first to third main frames being adapted to support said steering handle shaft portion, a single spring for giving a reaction force in a direction opposite to the turning direction of said steering handle when said steering handle is operated, wherein said spring is provided with a pair of clamping portions projected outwards from said steering handle shaft

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portion so as to clamp external surfaces of one of the main frames therebetween, wherein the first and second main frames are connected via a connection frame which extends orthogonally with respect to lower portions of the first and second main frames, wherein the connection shaft is mounted along a central portion of the connection frame extending between the lower portions of the at least first and second main frames. However, McClellion discloses a frame body with a cylindrical portion and two main frames. It would have been obvious to modify McClellion by adding a third main frame, as such a modification would be a simple duplication of parts, with the motivation of achieving the predictable result of adding more strength to the frame. It also would have been an obvious matter of design choice to specify the three main frames are at equal angular intervals, as applicant has not disclosed that the equal intervals provide an advantage or solve a stated problem relative to any other configuration. Further, it would have been obvious to combine McClellion's frame body with McDowell's connection shaft, with the motivation of providing extra structural support for McDowell's shaft. Furthermore, it would have been obvious to one skilled in the art at the time of the invention to modify the teachings of Yamasaki by adding such a frame body with first to third main frames, with the motivation of providing structural support to Yamasaki's connection shaft. Yamasaki and McClellion do not explicitly disclose the claimed single spring reaction force mechanism, however Tosaki discloses a steering wheel control apparatus for a television game machine. The steering wheel control apparatus features a centering mechanism which provides a reaction force in the direction opposite the turning direction (column 19, lines 39-45). The centering mechanism is a single torsion spring 52 (see Fig's. 16 and 17; column 19, lines 56-65), wherein the single spring is provided with a

pair of clamping portions 52a and 52b projected outwards from the steering handle shaft portion so as to clamp the frame portion/engagement cylinder 31 therebetween (see Fig's. 16 and 17; column 19, lines 56-65). It would have been obvious to one skilled in the art at the time of the invention to replace the handle moving motor of Yamasaki with the centering mechanism of Tosaki, with the motivation of reducing the cost of the parts. Tosaki does not explicitly disclose that the spring clamps the external surfaces of one of the main frames, however it would have been obvious to one skilled in the art at the time of the invention to place the spring clamps on external surfaces of one of the main frames instead since the invention of Tosaki requires a stationary pole for the torsion spring to provide reactive forces. Replacing the engagement cylinder with one of the main frames is a simple substitution of one known element for another to achieve predictable results.

Regarding claim 14, it is noted that Yamasaki, McClellion and Tosaki do not explicitly disclose elastic members interposed between the pair of clamping portions of the spring and the frame. Official Notice was taken in the Office Action dated 6/25/2007 that both the concept and advantages of placing damping material (elastic members) between points of contact was well known and expected in the art at the time of the invention. Since the applicant did not traverse the official noticed facts by specifically pointing out supposed errors, the official noticed facts taken in the rejection date 9/22/2007 are now considered admitted prior art. See MPEP 2144.03. Therefore it would have been obvious to one skilled in the art at the time of the invention to place elastic members interposed between the pair of clamping portions of the spring and frame, with the motivation of reducing noise.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US Patent No. 6,083,106) in view of Yamasaki et al. (US Patent No. 5,547,382) and McClellion (US Patent No. 7,156,026 B2), and further in view of Uebel (US Patent No. 4,199,264).

Regarding claim 16, Yamasaki further discloses the vibrator includes an eccentrically mounted weight (see Fig. 36; column 17, line 22-37). Yamasaki does not explicitly disclose a bracket having a hollow space, the bracket being screw-engaged with an portion of a steering handle pipe constituting said steering handle mechanism, wherein said vibrator is inserted into the inside of said steering handle pipe in the state of being held by said bracket, wherein the vibrator includes an eccentrically mounted weight extending from an outer end of the vibrator so as to be disposed in the hollow space. However, as disclosed in the rejection of claim 15, above, Uebel discloses a similar vibrator mechanism that could easily be first to the handlebars. It would have been obvious to one skilled in the art at the time of the invention to modify the teachings of McDowell and Yamasaki by using the vibrator mechanism taught by Uebel including the flat recesses engaging the inner circumference of the pipe, and using this mechanism in the handlebars taught by Yamasaki, with the motivation of propagating the maximum possible vibrations between the vibrator and the handlebars. Uebel does not explicitly disclose the vibrator is screw engage with the pipe, as required, however as Official Notice was taken in the previous Office Action dated 6/25/2007 and not traversed, this feature is now admitted prior art, and therefore it would have been obvious to one skilled in the art at the time of the invention to secure the vibrator bracket of Uebel's system with a screw or screws, with the motivation of securing the bracket and vibrator in place.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US Patent No. 6,083,106) in view of Yamasaki et al. (US Patent No. 5,547,382) and McClellion (US Patent No. 7,156,026 B2), and further in view of Tosaki et al. (US Patent No. 5,989,123).

Regarding claim 17, McDowell and Yamasaki do not explicitly disclose the claimed single spring reaction force mechanism. Tosaki discloses a steering wheel control apparatus for a television game machine. The steering wheel control apparatus features a centering mechanism which provides a reaction force in the direction opposite the turning direction (column 19, lines 39-45). The centering mechanism is a single torsion spring 52 (see Fig's. 16 and 17; column 19, lines 56-65), wherein the single spring is provided with a pair of clamping portions 52a and 52b projected outwards from the steering handle shaft portion so as to clamp the frame portion/engagement cylinder 31 therebetween (see Fig's. 16 and 17; column 19, lines 56-65). It would have been obvious to one skilled in the art at the time of the invention to replace the handle moving motor of Yamasaki with the centering mechanism of Tosaki, with the motivation of reducing the cost of the parts. Tosaki does not explicitly disclose that the spring clamps the external surfaces of one of the main frames, however it would have been obvious to one skilled in the art at the time of the invention to place the spring clamps on external surfaces of one of the main frames instead since the invention of Tosaki requires a stationary pole for the torsion spring to provide reactive forces. Replacing the engagement cylinder with one of the main frames is a simple substitution of one known element for another to achieve predictable results.

10. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al. (US Patent No. 5,547,382) in view of McClellion (US Patent No. 7,156,026 B2) and Tosaki et al. (US Patent No. 5,989,123), and further in view of McDowell (US Patent No. 6,083,106) and Simpkins et al. (US Patent No. 5,431,569).

Regarding claim 19, Yamasaki discloses the step mechanism comprises a brake pedal and a gear change pedal which are operated by the feet of the operator (see Fig. 33; column 6, lines 1-29; column 16, lines 45-61). Yamasaki does not explicitly disclose said connection shaft is provided to be extendable and contractible along the axial direction thereof, and wherein the connection shaft is inclinable by a predetermined amount relative to each of the first to third main frames. However, McDowell discloses such a telescopic shaft (column 6, lines 7-22), and Simpkins discloses that it is well known in the art to provide an inclinable mechanism to provide for foot controls that are movable (see Fig. 1). It would have been obvious to one skilled in the art at the time of the invention to modify the teachings of Yamasaki by using the telescopic connection shaft taught by McDowell, with the motivation of providing a direct connection between the foot controls and hand controls, and it would have been obvious to one skilled in the art at the time of the invention to modify the teachings of the combination by making the foot controls inclinable relative to the main frame, with the motivation of accommodating riders of different sizes.

Allowable Subject Matter

11. Claims 5, 6, 11, 12, 18 and 20 are allowed.

Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Independent claims 5 and 6 disclose a motorcycle simulation system that includes a novel device for providing a dummy engine vibration to the operator. Yamasaki et al. (US Patent No. 5,547,382), the closest prior art of record, discloses a dummy engine vibration mechanism in a steering handle that includes an eccentrically mounted weight, but does not teach a vibrator formed with left and right flat sides and curved top and bottom sides, a taper surface portion formatted at an inner circumferential surface of a steering handle pipe constituting the steering handle mechanism, said taper surface portion gradually decreasing in diameter from the side of an end portion of said steering handle pipe, as well as the bracket mechanism with recesses for engagement with the steering handle. Uebel (US Patent No. 4,199,264) discloses an unbalanced weight vibrator including an eccentrically mounted weight and brackets with recesses, but does not teach or suggest a taper surface mechanism gradually decreasing in diameter, or any mechanism for engaging with a steering handle pipe of a motorcycle, as recited in claims 5 and 6.

Independent claim 11 discloses a riding simulation system that includes a novel click generator mechanism to the click felt by the rider of a real motorcycle. The combination of McDowell (US Patent No. 6,083,106), Yamasaki et al. (US Patent No. 5,547,382) and McClellion (US Patent No. 7,156,026 B2) teaches the step mechanism, connection shaft and frame portion of the simulated motorcycle, and Yamasaki discloses a simulated gear change, but the combination does not disclose the click generator comprises a support member disposed between a cover member and a support plate, and a ball member disposed in a hole formed in a shaft projecting from a support member, the cover member having a hole portion formed therein in which the ball member is engaged when said gear change pedal is in a center position. Ito (US Patent No. 4,589,532) discloses a speed selector for a transmission that includes a mechanism with a ball member engaged in a hole formed in a shaft, but does not disclose the cover member has a hole portion in which the ball member is engaged when the gear change pedal is in a center position, and also does not teach or suggest utilizing such a mechanism for generating a simulated gear change feeling.

Claim 15 recites the same vibrator mechanism as recited in independent claims 5 and 6, and would therefore be allowable for the same reasons if written in independent form.

Response to Arguments

13. Applicant's arguments with respect to claims 1-4, 13, 14, 16, 17 and 19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Liebelt (US Patent No. 6,236,306 B1) discloses a tactual annunciating device. Aknin et al. (US Patent No. 5,364,271) discloses a motorcycle riding simulation system.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Egloff whose telephone number is (571) 270-3548. The examiner can normally be reached on M-F 7:30am - 5:00 pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached at (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kathleen Mosser/
Primary Examiner, Art Unit 3715

Peter Egloff